

## 2.12 Project Documentation

### 2.12.1 General

The Design-Builder shall conduct all Work necessary to complete the required documentation for the design and construction of the Project, and to obtain WSDOT acceptance of the final Project documentation.

### 2.12.2 Mandatory Standards

The following is a list of Mandatory Standards that shall be followed for all design and construction related to this Section as referenced in TR Section 2.2, *Mandatory Standards*.

1. Standard Specifications M 41-10 (Appendix 4)
2. WSDOT *Design Manual* M 22-01 (Appendix 4)
3. WSDOT *Bridge Design Manual LRFD* M 23-50 (Appendix 4)
4. WSDOT *Highway Runoff Manual* M 31-16 (Appendix 4)
5. WSDOT *Environmental Manual* M 31-11 (Appendix 4)
6. WSDOT *Plans Preparation Manual* M 22-31 (Appendix 4)
7. WSDOT *Construction Manual* M 41-01 (Appendix 4)
8. WSDOT *Standard Plans* M 21-01 (Appendix 4)
9. WSDOT *Electronic Engineering Data Standards* M 3028 (Appendix 4)
10. *Qualified Products List* (QPL)  
<https://www.wsdot.wa.gov/Business/MaterialsLab/QPL.htm>

### 2.12.3 Design Requirements

All documentation for the Project shall be submitted for review in accordance with the Quality Management Plan (QMP).

#### 2.12.3.1 Design Documentation Package and Project File

The Design-Builder shall prepare a Design Documentation Package (DDP) and a Project File (PF) for the Project. The DDP and PF shall be maintained throughout the Project by the Design-Builder and then submitted to WSDOT for retention before Physical Completion. The Design-Builder shall obtain WSDOT-generated information not included in the original Request for Proposal that the Design-Builder needs in order to complete the DDP and PF items.

The DDP documents and explains design decisions, design criteria, and the design process that was followed. The DDP consists of three items: *Conceptual Design Approval (CDA)*, Project Development Approval (PDA), and DDP Supporting

Documents. Further details on the DDP are found in Chapter 300 of the WSDOT Design Manual and the *Design-Build DDP Checklist* (Appendix 4). The Design-Builder shall be responsible for assembling the entire DDP and submitting to WSDOT for retention.

- **CDA:** The *DA* was developed during the Phase 1 Services Period by the Design-Builder. The Design-Builder shall be responsible for any *CDA* content changes and to record these changes in the PDA.
- **PDA:** The Design-Builder shall be responsible for completing the PDA to include all updates to the *CDA*. The Design-Builder shall note where the PDA updates the *CDA* in the DDP checklist and make these updates available to the WSDOT Engineer within seven Calendar Days of a request. The Design-Builder shall submit a draft of the PDA within 60 Calendar Days of the last Released for Construction (RFC) Submittal. The WSDOT Engineer will Review and Comment within 25 Calendar Days. All comments shall be resolved before the PDA is finalized and submitted to the WSDOT Engineer for approval. The WSDOT Engineer approval of the PDA is a requirement to achieve Physical Completion.
- **DDP Supporting Documents:** The DDP Supporting Documents are listed in the DDP checklist. When these documents are completed can vary with each project. If the design-builder changes or updates these DDP supporting documents, they are responsible for recording these changes in the PDA. The remaining DDP Supporting Documents required for PDA must be completed by the Design-Builder and shall be completed prior to submitting the PDA for Review and Comment.

The PF contains the documentation that is important to the Project design but not included in the DDP. This includes documents from planning, design, c, utility relocation, needed right of way, constructability, or maintenance review comments. The PF checklist is meant to be dynamic and is not an all-inclusive list of items. The content of the PF is identified in the *PF Checklist* (Appendix 4). If an item on the *PF Checklist* is not applicable, the Design-Builder shall note such on the checklist with clarifying statements explaining why. The Design-Builder is responsible for assembling the applicable PF documentation and submitting it to WSDOT for retention prior to Physical Completion. WSDOT will include documentation that it controls in the PF.

### 2.12.3.2 Practical Design Documents (Basis of Design, Alternative Comparison Table)

The Design-Builder shall conduct all Work necessary to update the Basis of Design and the Alternatives Comparisons Technical Memorandum for the Project should any revisions be necessary to the Basis of Design developed during the Phase 1 Services Period and included in the *Design Approval* at the time the Culvert Bundle Amendment is entered into by the parties. All Basis of Design revisions shall be approved by the WSDOT Engineer prior to the final submittal of the PDA.

### 2.12.3.3 This section is intentionally omitted

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### 2.12.3.4 Technical Memoranda

The Design-Builder shall provide technical memoranda that document decisions made during the completion of the design regarding components not included in the Mandatory Standards. The technical memoranda shall be provided with associated preliminary Design Documents at the task force meetings. Technical memoranda shall be dated, indicate the Project title, and include the stamp and signature of a Licensed Professional Engineer. The technical memoranda shall follow the following format:

- Section 1 - Subject or purpose
- Section 2 - Background or existing conditions
- Section 3 - Discussion of alternatives
- Section 4 - Recommendations
- Section 5 - Conclusions

### 2.12.3.5 Calculations

All calculations shall be prepared and checked in accordance with the QMP. The calculations shall be submitted to the WSDOT Engineer for Review and Comment, concurrently or prior to the submittal of the corresponding Design Documents.

### 2.12.3.6 Design Analyses

The Design-Builder shall conduct all Work necessary to complete the Design Analyses for the Project. All Design Analyses shall be prepared by, or under the direct supervision of, a Licensed Professional Engineer. The cover of each Design Analysis shall carry the Licensed Professional Engineer's stamp and signature.

#### 2.12.3.6.1 *Pre-Approved Design Analyses*

This Section is intentionally omitted.

#### 2.12.3.6.2 *Additional Design Analyses*

The Design-Builder shall prepare and obtain the WSDOT Engineer approval and Local Agencies' approval as required, for all Design Analyses incorporated into the Project within the Project limits. Although additional Design Analyses may be requested, the Design-Builder is advised that there is no assurance they will be approved.

If the WSDOT Engineer or the Design-Builder identifies that the design developed during the performance of Phase 1 Services requires any Design Analyses that have not been previously approved at the time Culvert Bundle Amendment, the Design-Builder shall prepare documentation for the Design Analyses which conforms to the WSDOT *Design Manual*. The Design-Builder shall submit this documentation to the WSDOT Engineer for Review and Comment. The Design-Builder shall not incorporate any Design Analyses into the Project without receiving the WSDOT Engineer approval and Local Agencies' approval as required.

Design Analyses approved after Base Culvert Bundle Amendment shall be addressed in accordance with Section 1-04 of the *General Provisions* (Appendix 4).

#### 2.12.3.7 **Maximum Extent Feasible**

At locations where it is not feasible to meet WSDOT design criteria for pedestrian facility design elements, the Design-Builder shall prepare and submit a Maximum Extent Feasible (MEF) document for the WSDOT Engineer's Review and Comment. All MEF documents shall be prepared by, or under the direct supervision of, a Licensed Professional Engineer. The cover of each MEF shall carry the Licensed Professional Engineer's stamp and signature. The Design-Builder shall coordinate with the WSDOT Engineer and the Regional Americans with Disabilities Act Coordinator prior to preparing and submitting the MEF document. The MEF document shall be prepared using the *Maximum Extent Feasible Template* (Appendix 4).

#### 2.12.3.8 **Project Development Approval**

Significant revisions to the concept as documented in the *Design Approval* developed during Phase 1 Services shall be noted and updated in the PDA. The PDA shall follow the Design Documentation Package Checklist (Appendix 4). The Design-Builder shall submit a draft of the PDA within 60 Calendar Days of the last RFC design submittal. The WSDOT Engineer will Review and Comment

within 25 Calendar Days. All comments shall be resolved before the PDA is finalized and submitted to the WSDOT Engineer for approval. The WSDOT Engineer approval is required prior to Completion.

#### **2.12.3.9 Final Design Documents**

Prior to Physical Completion or termination of the Contract, the Design-Builder shall collect and submit all Design Documents prepared in the performance of the Contract. The Final Design Documents shall include, at a minimum, the following:

- DDP, PF, and technical memoranda
- PDA
- Updated electronic MicroStation and InRoads files in accordance with the WSDOT *Electronic Engineering Data Standards Manual*, including all RFC sheets, reference files, and base mapping (topography, including survey updates)

The Design-Builder shall ensure that the Final Design Documents reflect the actual condition of the constructed Work, to the same degree of detail as the RFC Documents.

The Final Design Documents shall include all changes and corrections to the documents that depict the final completed component, with relevant data shown (including copies of calculations not previously submitted with Working Drawings or with the Final Design Submittal).

The WSDOT Engineer will Review and Comment on the submittal and advise the Design-Builder of its acceptance of the Final Design Documents or will provide comments detailing issues to be resolved. The Design-Builder shall address all comments in a manner consistent with the comment resolution process outlined in the Design-Builder's QMP, and then resubmit the Final Design Documents to the WSDOT Engineer. The WSDOT Engineer approval is required prior to Completion.

#### **2.12.4 Construction Requirements**

The Design-Builder shall conduct all Work necessary to provide temporary and permanent final records for the Project in accordance with the WSDOT *Construction Manual* and this Section.

##### **2.12.4.1 As Built Plans, Special Provisions, and Technical Specifications**

Prior to Culvert Bundle Physical Completion of each Culvert Bundle, the Design-Builder shall update and re-release all RFC and Design Documents affected by Significant Revisions made during construction in accordance with TR Section

2.28, *Quality Management Plan*. The electronic MicroStation and InRoads files shall be updated with all Significant Revisions to show the as-constructed conditions, incorporating all revisions made during construction. The Design-Builder shall make all electronic MicroStation and InRoads files consistent with the software and drawing conformance requirements of the Technical Requirements and shall submit an electronic copy of the As Built Plans in accordance with the WSDOT *Construction Manual* and one complete electronic copy of the updated MicroStation and InRoads files on a USB flash drive.

All revisions of the RFC Documents shall be performed by, or under the direct supervision of, the Engineer of Record (EOR) for the documents. For Significant Revisions, each re-issued sheet of the revised RFC Documents and the cover of each of the re-issued revised RFC technical Specifications shall include the Licensed Professional Engineer's stamp and signature. The Design-Builder shall outline the threshold for these changes in their QMP.

The WSDOT Engineer shall be notified of design revisions made during construction subject to Section 6.8 (Changes to the Design and Construction Requirements at Design-Builder Request) or Section 6.9 (Other Changes to the Phase 2 Work and Design and Construction Requirements) of this PDB Contract. Plans, calculations, and other supporting documents shall be submitted to the WSDOT Engineer for Review and Comment prior to implementation of the revisions during construction. Calculations for design revisions made during construction shall be incorporated into the design calculation file when construction is completed in accordance with TR Section 2.28, *Quality Management Plan*.

The As Built Plans shall reflect the same degree of detail as the RFC Documents in accordance with TR Section 2.28, *Quality Management Plan*. Minor changes to RFC Plans (not requiring EOR reissue of RFC Documents or Specifications) may be electronically marked with redline in electronic PDF files of the RFC Documents. If minor changes to drawings per 2.12.4.1 occur via redlines to the as-builts, those redline marks do not need to be incorporated into updated electronic files. Underground features, including but not limited to, buried, or abandoned structures, shall be documented on the As Built Plans showing the location and elevation. The Design-Builder shall also provide reproducible originals of all Working Drawings.

The Design-Builder shall submit As Built Plans in accordance with the requirements of the WSDOT *Construction Manual*. As Built Plans shall be submitted as a complete package in sequence, including all RFC sheets, both those with Significant Revisions and those without, in accordance with the numbering and naming conventions as defined in the WSDOT *Plans Preparation Manual*.

The Transportation Management Plan and any other temporary work or structures (i.e., traffic bypass, stream bypass, traffic control plans) and the Temporary Erosion and Sediment Control Plan are exempt from the As Built Plan requirements.

The WSDOT Engineer will Review and Comment on the Submittal and advise the Design-Builder of its acceptance of the Final Phase 2 Design Documents or will provide comments detailing issues to be resolved. The Design-Builder shall address all comments in a manner consistent with the comment resolution process outlined in the Design-Builder's QMP, and then resubmit the Final Phase 2 Design Documents to the WSDOT Engineer. The WSDOT Engineer's approval is required prior to Culvert Bundle Completion for each Culvert Bundle.

#### 2.12.4.2 Final Records

The Design-Builder shall submit final records prior to Culvert Bundle Completion of each Culvert Bundle or termination of the PDB Contract. The Design-Builder shall prepare and submit documentation for final records in accordance with the WSDOT *Construction Manual* (Appendix 4) and the *Contract File Index* (Appendix 4) unless otherwise noted in this Section.

##### 2.12.4.2.1 Permanent Final Records

All final record books prepared for permanent final records shall be numbered as outlined in the WSDOT *Construction Manual* and below:

- Final Record (Book No. 1)
  - The Design-Builder Personnel List (Section 2) – Contains the name and classification of managers, supervisors, foremen, testers, engineers, and any other Design-Builder personnel who were responsible for signing documents or forms or were responsible for decision-making on the Project. Each person shall sign his or her identifying initials after his or her name on this list in the same manner as it appears in other Project documents.
  - Final Estimate Sheets (Section 4) – Will be prepared by the WSDOT Engineer and provided to the Design-Builder for review and signature
  - Record of Construction Materials (Section 8) – A tabulation showing the source of all construction materials
- Project Engineer's Diaries (Book No. 2)
- Daily Reports (Book No. 3)
- Traffic Surveillance and the Design-Builder's Daily Report of Control Summary and Log Surveillance (Book No. 4)

- Pile Driving Records (Book No. 5)
- Post Tensioning Records (Book No. 6)
- Contaminated Materials Disposal Bills (Book No. 7)
- Miscellaneous Records (Book No. 8)
  - Materials certification
  - As Built Plans
  - Completed shop drawings

#### **2.12.4.2.2 Temporary Final Records**

Temporary final records consist of all Project records that are not kept as permanent final records. The Design-Builder shall submit the following temporary final records in addition to the requirements provided in Chapter 10 of the WSDOT *Construction Manual*:

- A list of all field design changes (significant revisions and minor changes)
- Test reports for storm sewers, sanitary sewers, and water mains
  - The Design-Builder shall develop and complete a report for the testing of storm sewers, sanitary sewers, and water mains. This report shall include the type of pipe, the location of the pipe, all the calculated factors for the testing, the test results, and whether it passes or fails.
- Construction survey
  - Copies of all survey calculations and survey notes including grade books and cross-section notes
- Material acceptance test reports
- Source of materials documentation
- Copies of Working Drawings
- Copies of certified payrolls (for Federally funded projects or when requested in writing by the WSDOT Engineer)
- Horizontal and vertical alignment data

#### **2.12.4.3 Close Out Task Force**

The Design-Builder shall establish a “Close Out Task Force” to oversee and provide input on developing design documentation and final records and temporary final records as further described below. At a minimum, the Close Out Task Force meetings shall include the Project Quality Manager, Document Control Manager, Project Manager, Design Manager, and the WSDOT Engineer. The Design-Builder shall submit the meeting schedule and draft agenda to all attendees prior to the first meeting. The meetings shall be held monthly starting 4



1 months after the Notice to Proceed is issued for the performance of Phase 2 Work  
2 of each Culvert Bundle, or earlier as proposed by the Design-Builder, and  
3 continuing through Culvert Bundle Substantial Completion for each Culvert  
4 Bundle: and weekly from Culvert Bundle Substantial Completion through Culvert  
5 Bundle Completion for each Culvert Bundle.

6 **2.12.5** *Miscellaneous Submittals*

7 At the request of the WSDOT Engineer, the Design-Builder shall deliver to the  
8 WSDOT Engineer Work-related submittals that do not fit in the previous  
9 categories but are prepared in accordance with this Section.

10 **End of Section**

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